

Listing of Claims:


1. (CURRENTLY AMENDED) An electrode array for use in a cochlear implant, said electrode array comprising electrodes selectively positioned along said electrode array and having an electrode density, said electrode density being higher at least in one array region to target a selected region ~~selected regions~~ of a cochlea.

Claims 2-4. (CANCELLED)

5. (CURRENTLY AMENDED) An electrode array according to claim 4 1 wherein said electrodes have a spacing between adjacent electrodes ~~is such as~~ selected to correspond closely with the spacing of auditory receptors on the inner wall of the scala timpani.

6. (CURRENTLY AMENDED) A method of constructing a cochlear electrode array having electrodes for implantation into a cochlea of the patient as part of a cochlear implant system, the patient having aural receptors disposed on the inner wall of the cochlea with aural receptors in one region being spaced apart at a different distance than aural receptors disposed at another region of said cochlea, the method comprising: positioning said electrodes along the length of the electrode array, said

electrodes having an electrode density that is higher at locations that match the positions of said aural receptors to enable stimulation of the desired site of the cochlea when the electrode array has been inserted, ~~with the spacings between consecutive electrodes being different for the electrodes stimulating the receptors of said one region than the spacing between consecutive electrodes stimulating the receptors of said aural receptors in said another region.~~



Claims 7-11. (CANCELLED)

12. (CURRENTLY AMENDED) A cochlear implant electrode array for implantation into the cochlea of a patient, said cochlear implant having receptors at receptor positions, said array comprising a plurality of electrodes spaced at predetermined electrode positions, said electrode positions being selected to match to define an electrode density along the electrode array that is higher at said receptor positions after implantation of said electrode array then in other areas of the electrode array.

13. (CURRENTLY AMENDED) An electrode array for use in a cochlear implant to be implanted in a patient having spaced aural receptors disposed adjacent to the inner wall of the scala timpani, with receptors being spaced closer to each other as they

approach the center of the cochlear spiral, said electrode array comprising electrodes selectively positioned longitudinally along said electrode array with consecutive electrodes being positioned to define a non-uniform electrode intensity, with said electrode density being higher at the locations of the aural receptors ~~at different spacings along the length of the array, said spacings being selected to match the positions of the electrodes at least approximately with the locations of said aural receptors.~~

14. (CURRENTLY AMENDED) An electrode array for use in a cochlear implant to be implanted in a patient having aural receptors disposed on the inner wall of the cochlea at distances that are gradually smaller along the organ of Corti as the receptors approach the center of the spiral of the cochlea, said electrode array comprising electrodes selectively positioned along said electrode array to define a non-uniform electrode intensity, with said electrode density being higher at the locations of the aural receptors ~~with consecutive electrodes being positioned at different spacings, said spacings being selected to match the positions of the electrodes at least approximately with the locations of said spaced aural receptors.~~

15. (PREVIOUSLY PRESENTED) An electrode array according to claim 13 wherein said electrodes are adapted to be positioned close to the inner wall.

16. (PREVIOUSLY PRESENTED) The array of claim 14 wherein said electrodes are adapted to be positioned on implantation against the inner wall of the cochlea to make contact with said aural receptors.

17. (PREVIOUSLY PRESENTED) A method according to claim 6 wherein the aural receptors on the inner wall are positioned closer to each other toward as they approach the center of the spiral of the cochlea, and wherein said array includes an apical end and a basal end, said basal end being adapted to be introduced toward said center, further comprising positioning electrodes closer to said basal end with a spacing that is smaller than the spacing for the electrodes further from said basal end.

18. (NEW) An electrode array for use in a cochlear implant to be implanted in a patient having neural regions disposed on the inner wall of the cochlea, said neural regions corresponding to specific frequency bands associated with speech recognition, said electrode array comprising electrodes selectively positioned along said electrode array to define a non-uniform electrode intensity, with said electrode density being higher at the locations of said neural regions.
